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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/801,406

Applicant(s)

AOKI ET AL.

Examiner

Harris C. Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-21 are pending

Response to Arguments

Applicant's arguments concerning Claims 1-21, filed 7/26/2007 have been fully considered but they are not persuasive.

The Examiner appreciates the Applicant catching the typo, where the 112 rejection was originally made for Claims 4, 10 and 16, but meant for Claims 5, 11 and 17. The Applicant has amended to remove the clause "any other form of cryptography." Therefore the Examiner withdraws the 112 rejection.

The Applicant first argues "The Examiner asserts that merely repeating the teachings of Brickell yields all of the above quoted steps. In stark contrast to the teachings of Brickell being repeated, the web service request steps are chained. Several differences exist between chaining and repeating. (pg. 14 of Remarks)"

The Applicant elaborates "First, chaining requires the first web service to determine a need for a second web service. In stark contrast, Brickell does not teach the first web service contacting the second web service (pg. 14 of Remarks)."

The Examiner would like to point out that the claim language not described by the Applicant's Remarks details "a discovery service passing to said principal an identity assertion associated with said principal...said principal authenticating using said identity assertion and using said discovery service descriptor at a Web service client...the Web service client requesting a first service descriptor associated with said first Web

service...in response to receiving said first service descriptor and first service assertion, said Web service client invoking a desired service at said Web service (Claim 1)."

In other words, the principal (a user) uses a first service (the Web service client) to request another service (the "first service" in the claim language). The principal delegates the service requesting responsibilities to the web service client, which thereby requests a first service. The web service client requests a service descriptor from the "first service" as described in the claim language, and in response to receiving the service descriptor and service assertion, the "first service" is invoked. This describes a "chain of services," from the principal to the web service client to the "first service."

Brickell teaches a delegation system comprising delegates, delegators, a relying party, and a delegation credential service provider. In Brickell, a Delegator sends a service request to a Relying Party which in turn requests service descriptors from the service.

While Brickell does teach a principal requesting a web service client further requesting a first service, Brickell does not explicitly teach a principal requesting a web service client, further requesting a first service, further requesting a second service.

The steps for requesting a second service are very similar to requesting the first service. For requesting the first service the Applicant describes "said Web service client requesting a first service descriptor associated with said first Web service and a first web assertion associated with said first Web service from said discovery service" (Claim 1). For requesting the second service the Applicant describes "upon said first Web service determining at a second Web service, said first Web service requesting from

said discovery service a second service descriptor associated with said second Web service and a second service assertion associated with said second Web service” (Claim 1).

Because the steps for requesting the second service nearly identical, the Examiner interpreted the “first service” as another Web service client, that simply performed the same method again for another service.

Applicant then argues, “Second, in response to additional information being required at the second web service, the first web service requests that additional information from the discovery service. Brickell does not teach or suggest a request for additional information from the first web service to the discovery service” (pg. 14 of Remarks).

In the Office Action, the Examiner wrote that “the DCSP stores delegation relationships, and Figure 2, shows a plurality of Delegation pairs. Without making any modification to the system, one of ordinary skill would be able to execute the method of the first Web service invoking a second desired service, by simply making a new delegation pair, of which the original Web Service is the Delegator and the second Web Service is the new Delegate. (pg. 6)” The DCSP as described in the Office Action, contains the information of the delegates and delegators. The DCSP contains the additional information.

Applicant then argues “Third, Claim 1 further requires: ‘said discovery service adding second service assertion to said first service assertion.’” Brickell writes “A delegate may refer to any user. For example, a user who may be a delegator in a

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separate delegation relationship may independently send a service request to the relying party (Paragraph [0033]).”

The Examiner never claimed that “Brickell added a second service assertion to said first service assertion.” However because Brickell does teach that a user may both be a delegate and a delegator, having a delegate assign responsibilities to another delegate is considered an obvious modification. As such, because the DCSP specializes in forming delegation relationships, the Examiner believes it would have been obvious to one of ordinary skill to form a chain of delegation, by adding a first service assertion to a second service assertion.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Applicant has amended Claim 21 to further require "the second Web server indirectly communicates with the discovery service through the first Web server." The Applicant has cited page 13, lines 14-20 as support for the amendment.

Page 13, lines 14-20 of Applicants specification read: "The stored user statement information 416 could be in the form of a table, for example. In another embodiment of the invention, the WSP 402 stores the ticket 414. When the WSC 404 makes a request to use the WSP, the WSC contacts the DS first which tells the WSC where to go for the service, i.e. to the WSP."

It is not clear how the cited page and line numbers support the amendment. The Examiner also did not find the word "indirect" throughout the specification.

Claim Rejections - 35 USC § 103

3.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brickell (US 20030145223).

Regarding Claims 1,7 and 13

Brickell teaches a method for a first Web service provider to invoke a service hosted on a second Web service provider on behalf of a principal in a computer environment, comprising the steps of:

said principal logging in with a discovery service; said discovery service passing to said principal an identity assertion associated with said principal and a discovery service descriptor associated with said discovery service for use by principal for future authentication; (*"By subscribing to a digital credential service, a user may receive a digital certificate (discussed in reference to Fig. 4) which certifies the user's digital credential service registration with the DCSP" Paragraph [0028]*). The Examiner interprets the principal as the user, the discovery service as the digital credential service, and the "identity assertion associated with principal and discovery service descriptor" as the digital certificate which certifies the user's digital credential service registration with the DCSP.

said principal authenticating using said identity assertion and using said discovery service descriptor at a Web service client, said Web service client linking to and representing a desired commerce site of said principal; (*"A digital delegate certificate may be issued to a delegate when a delegation is registered with the DCSP. The delegate certificate may comprise the identity of the delegate, the identity of the delegator, a delegation specification, a certified delegator signature, and a certified delegate signature. (Paragraph [0035])"*) The Examiner interprets the Web service client as the delegate.

in response to an action related to said desired commercial site, said Web service client requesting a first service descriptor associated with said first Web service and a first service assertion associated with said first Web service from said discovery service; (*"The delegate, when a need arises, requests, at act 330, a service from the relying part. The delegate signs this request and a request for the release of any necessary credential information with his private signature key. Upon receiving the service request from the delegate, the relying party requests, at act 340, credential information from the DCSP. The DCSP retrieves the requested credential information that is previously registered and stored, verifies that it is allowed to release this information, and sends, at act 350 the requested credential information back to the relying party. With the returned credential information, the relying party authenticates the delegate based on the credential information."* Paragraph [0033])

in response to receiving said first service descriptor and said first service assertion, said Web service client invoking a desired service at said first Web service; (*"The credential determiner may, based on the type of service requested, determine the credential requirements that are needed for authentication purposes."* Paragraph [0037])(*"Based on credential information, the credential verification mechanism verifies that the delegated*

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credential is valid and that it satisfies the authentication requirement. The service response generation mechanism then constructs the service response according to the verification results" Paragraph [0041]) In order to decide what type of service is requested, first a description of the service must be inherently received. The Examiner interprets the service assertion as the credential verification information.

Brickell further teaches, "a user may have to furnish a service provider with information that proves that the user...has resources to pay for the service" (Paragraph [0003]) which the Examiner interprets as anticipating a "commerce site."

Brickell does not explicitly teach where upon said first Web service determining a need to invoke a second desired service at a second Web service, said first Web service requesting from said discovery service a second service descriptor associated with said second Web service and a second service assertion associated with said second Web service;

and in response to receiving said request for said second service descriptor and said second service assertion, said discovery service adding said second service assertion to said first service assertion and subsequently passing said first service assertion and said second service descriptor to said first Web service;

in response to receiving said first service assertion and second service descriptor, said first Web service invoking said desired second service at said second Web service.

It would have been obvious to one of ordinary skill in the art at the time of the invention to repeat Brickell's method of invoking a service from a delegate, requesting

a description of the service as well as a service assertion, and upon receiving the assertion and descriptor invoking the desired service.

The motivation is that Brickell already performs the method once and has the necessary capabilities to perform the method again. For Example the DCSP stores delegation relationships, and Figure 2, shows a plurality of Delegation pairs. Without any modification to the system, one of ordinary skill would be able to execute the method of the first Web Service invoking a second desired service, by simply making a new delegation pair, of which the original Web Service is the Delegator and the second Web Service is the new Delegate.

Figure 2, shows the apparatus for performing the method described.

It is inherent that this method is performed by instructions on a medium executable by a computer.

Regarding Claims 2, 8 and 14

Brickell teaches the method of claim 1, wherein said first Web service invokes one or more services hosted on one or more Web servers. (*"When a party (e.g. delegator) delegates certain authority to another party (e.g. delegate) the delegate may use the delegated authority to request authorized services" Paragraph [0007]*)

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Figure 2, shows the apparatus for performing the method described.

It is inherent that this method is performed by instructions on a medium executable by a computer.

Regarding Claims 3, 9 and 15

Brickell teaches the method of claim 1, wherein said Web service client, said discovery service, said first Web server, and said second Web server are members of a federation relationship in which each member trusts said discovery service.

(The Delegators (210a), Delegates (210b), Relying Party (230) and Delegation Credential Service Provider (250) are in a federation relationship in which each member trusts the DCSP. See Figure 2)

Figure 2, shows the apparatus for performing the method described.

It is inherent that this method is performed by instructions on a medium executable by a computer.

Regarding Claim 4, 10 and 16

Brickell teaches the method of claim 1, wherein said service assertion: a notarization by said discovery service. *("For each service request, the relying party may determine the credential requirements needed for the service and then accordingly request the*

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needed credential information from the DCSP" Paragraph [0030]) ("The DCSP may verify the credential information with outside agencies" Paragraph [0032])

Figure 2, shows the apparatus for performing the method described.

It is inherent that this method is performed by instructions on a medium executable by a computer.

Regarding Claims 5, 11 and 17

Brickell the method of claim 4, wherein said service assertion is implemented using a string. (*"When the credential information request mechanism receives the requested credential information from the DCSP, it may parse the information and then pass the information to the credential verification mechanism" Paragraph [0040])*

The Examiner interprets in order to parse, in the field of computer science, one must first have a string.

Figure 2, shows the apparatus for performing the method described.

It is inherent that this method is performed by instructions on a medium executable by a computer.

Regarding Claim 6, 12 and 18

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Brickell teaches the method of claim 1. While Brickell does teach different types of services, where a service descriptor is inherently necessary before comparing credential requirements needed for the service.

However Brickell does not explicitly teach what form the descriptor takes.

Because it is common to have Strings used as descriptors, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the service descriptor comprises of a String.

The motivation is one of ordinary skill would be able to describe a service with a string of text.

Figure 2, shows the apparatus for performing the method described.

It is inherent that this method is performed by instructions on a medium executable by a computer.

Regarding Claims 19-20,

Brickell teaches a method for a first Web service provider to invoke a service hosted on a second Web service provider on behalf of a principal in a computer environment, comprising the steps of:

said principal logging in with a discovery service; said discovery service passing to said principal an identity assertion associated with said principal and a discovery service descriptor associated with said discovery service for use by principal for future

authentication; (*"By subscribing to a digital credential service, a user may receive a digital certificate (discussed in reference to Fig. 4) which certifies the user's digital credential service registration with the DCSP"* Paragraph [0028]). The Examiner interprets the principal as the user, the discovery service as the digital credential service, and the "identity assertion associated with principal and discovery service descriptor" as the digital certificate which certifies the user's digital credential service registration with the DCSP.

said principal authenticating using said identity assertion and using said discovery service descriptor at a Web service client, said Web service client linking to and representing a desired commerce site of said principal; (*"A digital delegate certificate may be issued to a delegate when a delegation is registered with the DCSP. The delegate certificate may comprise the identity of the delegate, the identity of the delegator, a delegation specification, a certified delegator signature, and a certified delegate signature. (Paragraph [0035])"*) The Examiner interprets the Web service client as the delegate.

in response to an action related to said desired commercial site, said Web service client requesting a first service descriptor associated with said first Web service and a first service assertion associated with said first Web service from said discovery service; (*"The delegate, when a need arises, requests, at act 330, a service from the relying part. The delegate signs this request and a request for the release of any necessary credential information with his private signature key. Upon receiving the service request from the delegate, the relying party requests, at act 340, credential information from the DCSP. The DCSP retrieves the requested credential information that is previously registered and stored, verifies that it is allowed to release this information, and sends, at act 350 the requested credential information back to the relying party. With the returned credential information, the*

relying party authenticates the delegate based on the credential information.” Paragraph [0033])

in response to receiving said first service descriptor and said first service assertion, said Web service client invoking a desired service at said first Web service; (*“The credential determiner may, based on the type of service requested, determine the credential requirements that are needed for authentication purposes.” Paragraph [0037])*)(*“Based on credential information, the credential verification mechanism verifies that the delegated credential is valid and that it satisfies the authentication requirement. The service response generation mechanism then constructs the service response according to the verification results” Paragraph [0041])* In order to decide what type of service is requested, first a description of the service must be inherently received. The Examiner interprets the service assertion as the credential verification information.

means for retaining a footprint, wherein said footprint contains both said first service assertion and said second service assertion. (*“A delegation relationship between a delegator and a delegate is registered with the DCSP” Paragraph [0024])*

Brickell does not explicitly teach where upon said first Web service determining a need to invoke a second desired service at a second Web service, said first Web service requesting from said discovery service a second service descriptor associated with said second Web service and a second service assertion associated with said second Web service;

and in response to receiving said request for said second service descriptor and said second service assertion, said discovery service adding said second service

assertion to said first service assertion and subsequently passing said first service assertion and said second service descriptor to said first Web service;

in response to receiving said first service assertion and second service descriptor, said first Web service invoking said desired second service at said second Web service.

It would have been obvious to one of ordinary skill in the art at the time of the invention to repeat Brickell's method of invoking a service from a delegate, requesting a description of the service as well as a service assertion, and upon receiving the assertion and descriptor invoking the desired service.

Because Brickell already performs the method once and has the necessary capabilities to perform the method again. For Example the DCSP stores delegation relationships, and Figure 2, shows a plurality of Delegation pairs. Without any modification to the system, one of ordinary skill would be able to execute the method of the first Web Service invoking a second desired service, by simply making a new delegation pair, of which the original Web Service is the Delegator and the second Web Service is the new Delegate.

Brickell further does not teach that the first and second services are performed on Web servers.

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement services on Web Servers.

The motivation is it is well known to implement services on Web Servers.

Figure 2, shows the apparatus for performing the method described.

It is inherent that this method is performed by instructions on a medium executable by a computer.

Regarding Claim 21,

Brickell teaches a method for a first Web service provider to invoke a service hosted on a second Web service provider on behalf of a principal in a computer environment, comprising the steps of:

said principal logging in with a discovery service; said discovery service passing to said principal an identity assertion associated with said principal and a discovery service descriptor associated with said discovery service for use by principal for future authentication; (*"By subscribing to a digital credential service, a user may receive a digital certificate (discussed in reference to Fig. 4) which certifies the user's digital credential service registration with the DCSP"* Paragraph [0028]). The Examiner interprets the principal as the user, the discovery service as the digital credential service, and the "identity assertion associated with principal and discovery service descriptor" as the digital certificate which certifies the user's digital credential service registration with the DCSP.

said principal authenticating using said identity assertion and using said discovery service descriptor at a Web service client, said Web service client

linking to and representing a desired commerce site of said principal; (*"A digital delegate certificate may be issued to a delegate when a delegation is registered with the DCSP. The delegate certificate may comprise the identity of the delegate, the identity of the delegator, a delegation specification, a certified delegator signature, and a certified delegate signature. (Paragraph [0035])"*) The Examiner interprets the Web service client as the delegate.

in response to an action related to said desired commercial site, said Web service client requesting a first service descriptor associated with said first Web service and a first service assertion associated with said first Web service from said discovery service; (*"The delegate, when a need arises, requests, at act 330, a service from the relying part. The delegate signs this request and a request for the release of any necessary credential information with his private signature key. Upon receiving the service request from the delegate, the relying party requests, at act 340, credential information from the DCSP. The DCSP retrieves the requested credential information that is previously registered and stored, verifies that it is allowed to release this information, and sends, at act 350 the requested credential information back to the relying party. With the returned credential information, the relying party authenticates the delegate based on the credential information."* Paragraph [0033])

in response to receiving said first service descriptor and said first service assertion, said Web service client invoking a desired service at said first Web service; (*"The credential determiner may, based on the type of service requested, determine the credential requirements that are needed for authentication purposes."* Paragraph [0037])(*"Based on credential information, the credential verification mechanism verifies that the delegated credential is valid and that it satisfies the authentication requirement. The service response generation mechanism then constructs the service response according to the verification*

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results" Paragraph [0041]) In order to decide what type of service is requested, first a description of the service must be inherently received. The Examiner interprets the service assertion as the credential verification information.

Brickell does not explicitly teach where upon said first Web service determining a need to invoke a second desired service at a second Web service, said first Web service requesting from said discovery service a second service descriptor associated with said second Web service and a second service assertion associated with said second Web service;

and in response to receiving said request for said second service descriptor and said second service assertion, said discovery service adding said second service assertion to said first service assertion and subsequently passing said first service assertion and said second service descriptor to said first Web service;

in response to receiving said first service assertion and second service descriptor, said first Web service invoking said desired second service at said second Web service.

Because repeating known steps requires no new steps, it would have been obvious to one of ordinary skill in the art at the time of the invention to repeat Brickell's method of invoking a service from a delegate, requesting a description of the service as well as a service assertion, and upon receiving the assertion and descriptor invoking the desired service.

Because Brickell already performs the method once and has the necessary capabilities to perform the method again. For Example the DCSP stores delegation relationships, and Figure 2, shows a plurality of Delegation pairs. Without any modification to the system, one of ordinary skill would be able to execute the method of the first Web Service invoking a second desired service, by simply making a new delegation pair, of which the original Web Service is the Delegator and the second Web Service is the new Delegate.

Brickell further does not teach that the first and second services are performed on Web servers.

Because it is well known to implement services on Web Servers, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement services on Web Servers.

The motivation is it is well known to provide a way to implement the web services.

Brickell further does not teach wherein said second Web server indirectly communicates with said discovery service through said first Web server.

However because Brickell teaches Delegation Certificates that name both the delegate and delegator Identity, It would have been obvious to one of ordinary skill in the art at the time of the invention to have the second web server indirectly communicate with the discovery service by passing a delegation certificate through said first server.

The motivation is to remove the extra step of having to communicate with the Discovery service.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harris C. Wang whose telephone number is 5712701462. The examiner can normally be reached on M-F 8-5:30, Alternate Fridays Off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AYA Z R. SHEIKH can be reached on (571)272-3795. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HCW


SYED A. ZIA
PRIMARY EXAMINER